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ABSTRACT

Development in the study of organizations and needs for additional research are addressed. It is suggested that when goals are not achieved, an organization searches for new alternatives and new information. When aspirations are achieved, the search for new alternatives is assumed to be modest, slack accumulates, and aspirations rise. It has been observed that organizations are not simple hierarchies; they are political systems with unresolved, or partially resolved, conflicts of interest. The way in which the simple research model suggested by theories of limited rationality has been developed within organization theory is examined. Recent work on organizations has gone beyond ideas of limited rationality and conflict to consider the ways in which organizations are filled with ambiguity, confusions, and complexity. Rules are fundamental to understanding both the ways in which organizations maintain stability and the ways in which they change. Decision-making can be viewed as an arena for symbolic action, for developing and enjoying an interpretation of life. The rituals of choice infuse organizations with an appreciation of the sensibility of organizational arrangements and behavior. Research is emphasized that focuses on understanding ambiguity, confusion, and complexity. Attention is also directed to the design of management information systems, organizational leadership, four features of inference-processing particularly relevant to leaders (conservation of belief, belief in determinancy, anthropocentrism, and success bias), and understanding organizational change. It is suggested that a significant number of recent developments in the theoretical analysis of organizational decision-making have come from the study of institutions of higher education. (SW)

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EMERGING DEVELOPMENTS IN THE STUDY OF ORGANIZATIONS

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1. INTRODUCTION

An invitation to speak on emerging developments in any active research field is an invitation to pretense; and my observations will, I fear, be substantially less comprehensive than might be wished. Recent studies of organizations encompass enough variety to assure that the parochial interests and competences of a speaker will color considerably the portrait that is painted, and I am no exception. Thus, a small introduction in the spirit of full disclosure. I intend to talk about a few developments in that small corner of the study of organizations having to do with decision making, change, information, and the like. Within this domain of organizational research, I intend first to provide a little background, a quasi-history of the development of ideas; second, to list a few recent developments; third, to note some implications of those developments for some basic questions about organizations; and fourth, to comment on a few prospects and needs for additional research. My concern that such a relatively narrow focus may be inadequately responsive to your invitation is ameliorated by a conviction that it is necessary and an awareness that others have looked at different corners of the field in recent review articles that are readily available (Nystrom and Starbuck, 1981; Cummings, 1982; Faucheux, Amado, and Laurent, 1982).

2. BACKGROUND

The canonical beginning for students of organizations is a view of organizations as hierarchical systems for taking consequential action in a comprehensible world. Although everyone knows that such a characterization can be profoundly misleading, it is a frame for much of our thinking about organizational life. Modern theories of organizational decision making can be viewed as attempts to modify that conception in two simple ways. First, there has been considerable effort devoted to examining the consequences of the ways in which organizations, and the people in them, act on the basis of a limited comprehension of the world. They are boundedly rational rather than completely rational. They have incomplete information and modest capacities for processing information. These observations have led to development of theories of limited rationality, satisficing, attention, search, and organizational slack.

The basic ideas are well-known. Decision makers are assumed to have aspiration levels against which they evaluate performance. When goals are not achieved, the organization searches for new alternatives and new information. The search continues until it reveals an alternative that satisfies the currently evoked goals. New alternatives are sought in the neighborhood of old ones. The key scarce resource is attention; and theories of limited rationality are, for the most part, theories of the allocation of attention. They are also theories of organizational slack. When aspirations are achieved, search for new alternatives is assumed to be modest, slack accumulates, and aspirations rise. Conversely, when performance falls below aspirations, search is stimulated, slack is decreased, and aspirations

decline. These changes in aspirations, search, and slack tend to keep performance and aspiration reasonably close; and the process serves to buffer the organization somewhat from fluctuations in the environment.

Second, it has been observed that organizations are not simple hierarchies. They are political systems with unresolved, or partially resolved, conflicts of interest. Awareness of conflicts of interest in organizations has led to an elaboration of theories of coalitions, bargaining power, the quasi-resolution of conflict, and implementation. These basic ideas are also well-known. It is assumed that individuals enter a decision arena with preferences and resources; the resources are used to pursue personal advantage measured in terms of the preferences. Disputes are settled by some process that does not assume agreement on objectives. The usual metaphors are those of combat, exchange, or alliance. In the combat metaphor, collective decisions are weighted averages of individual desires, where the weights reflect the power distribution among individuals. In an exchange metaphor, collective decisions are reached through a mutually acceptable structure of trades. Markets facilitate cross-sector trading (e.g., bribery, blackmail) and encourage the pursuit of resources with high exchange value (e.g., the taking of hostages). In an alliance metaphor, disputes are settled by forming teams and then engaging in combat. The coalition structure is developed through exchange agreements and side payments. Within such political visions of organizations, attention is a scarce resource, so mobilization is important; information is an instrument of strategic actors, so its veracity is problematic; alliances are based on trades over time, so often depend on informal understandings and expectations; decisions are executed by different people than those who make them, so implementation is a

potential problem.

It is testimony to the power of the ideas, or the persuasiveness of their proponents, that these two elementary notions have spawned substantial elaboration. They have stimulated significant developments in behavioral decision theory (Kahneman,Slovic, and Tversky, 1982), and in economic theory where, under the labels of information economics, agency theory (Hirschleifer and Riley, 1979), and transaction costs (Williamson, 1975), they represent a large fraction of the work in micro economics over the past ten years. The elaboration can be illustrated by examining the way in which the simple search model suggested by theories of limited rationality has been developed within organization theory.

Several studies confirm that organizations search for new alternatives in the face of adversity (Staw and Szwajkowski, 1975; Manns and March, 1978). They discover efficiencies previously ignored; they economize. At the same time, however, it is clear that innovation, in general, cannot be explained in terms of problem-oriented search. Necessity is not the only mother of invention. Although the mechanisms involved are by no means well-understood, it is possible to identify several complications. The first is the prevalence of solution-driven search. Solutions look for problems to which they might be imagined to be answers, and innovations depend not only on the intensity with which problems search for solutions, but also on the intensity with which solutions look for problems. A second complication is what might be called risk satisficing. There is some evidence, taken mostly from studies of individual behavior, that choices tend to be risk avoiding where expected outcomes are favorable, but risk seeking where expected outcomes are

unfavorable. This result is consistent with a view of satisficing that assumes an organization seeks to maximize the probability of an outcome that exceeds its aspiration level, rather than maximize expected reward.

Risk satisficing is, however, qualified by a third complication, decentralization and slack search. Under conditions of plenty, organizational decisions tend to become more decentralized, more diffuse, less tightly linked to a coordinated organizational strategy. Consequently, although central decisions may tend to become risk avoiding during good times, decentralization increases the significance of slack search. Under conditions of success, search occurs as a part of the slack activities of an organization. It reflects the professional preferences of highly-qualified workers and the wandering of loosely-controlled subunits. From the point of view of the central authorities in the organization, slack search increases the level of risk taken. Thus, fluctuations in slack move an organization from a situation (high slack) where central authorities are relatively cautious, but slack search and decentralization introduces significant levels of risk, to a situation (low slack) in which central decisions are more risk-seeking but slack search and local autonomy are more constrained.

A fourth complication involves the slack reservoir of ideas. Under good conditions, slack search generates ideas, many of them too risky for adoption. When conditions change, such ideas are available as potential solutions to new problems. An organization is able to meet brief periods of decline by drawing on discoveries generated, but overlooked, during better times. A prolonged period of adversity, or of exceptional efficiency in avoiding slack, depletes the reservoir and leaves the organization vulnerable. The result of these

elaborations is a considerably more complicated understanding of the relations among success, search, slack, and organizational decisions. The elaborations have the usual costs of making it more difficult to unravel the net effects.

3. SOME NEW DIRECTIONS

Recent work on organizations has gone beyond ideas of limited rationality and conflict to consider the ways in which organizations are filled with ambiguity, confusions, and complexity. The argument is that focusing only on cognitive limitations of human actors and on explicit conflicts of interest is likely to lead to understanding the problems of coherence in organizations. In particular, the work has emphasized the ambiguities and complexities of preferences, experience, and technology (Cohen and March, 1974; March, 1978). In classic treatments of decision making in organizations, preferences are not problematic. They are assumed to drive action, to be stable, consistent, and precise, and to be exogenous to the decision problem. In classic treatments of learning in organizations, experience is not problematic. Organizations, and the individuals in them, learn from their experience, discovering the consequences of their actions and modifying subsequent behavior to improve it. The causal inferences of experience are assumed to be easy to make. In classic treatments of technology in organizations, technology is not problematic. Technological coherence is assured through means-ends chains, division of labor, and hierarchy. The relevance of a solution for a problem

is well-defined, and the problems of consistency are solved through allocation of responsibility and the making of policy.

Observations of organizations suggest that although organizations exhibit impressive elements of coherence and coordination, they cannot be fully comprehended in terms of clear objectives, experiences, and technologies. Organizational goals seem to be unclear, changing, and in conflict. Actions in one part of an organization appear often to be only loosely linked to actions in another. Solutions seem often to have only modest connections to problems. Policies often aren't implemented. Decision makers seem often to wander in and out of decision arenas. The whole process has been described as a funny soccer game played on a round soccer field (March and Romelaer, 1976). Many different people (but not everyone) can join a game (or leave it), depending on what other things they have to do. Some people can throw balls into the game or remove them. Individuals while they are in the game can kick whatever ball comes near them in the direction of whatever goal they choose, and away from goals they wish to avoid. And the whole field is sloped so that some goals are more easily scored than others.

Organizational action in such an ambiguous and confusing world is perplexing. It is not immediately obvious how organizations act and survive, even thrive, under such conditions. Or how we might think about them. Indeed, the apparent disorderliness of many things that are observed in organizations has led some people to argue that there is very little order to organizational decision making, that it is best described as chaos. A more conservative position, however, is that the order in organizations is less hierarchical and less a collection of means-ends chains than is anticipated by

traditional theories. There is order, but it is not the conventional order.

Temporal orders

It has been argued that understanding decisions requires an appreciation of how decision making fits into the lives of decision makers. Any decision process involves individuals and groups who are simultaneously involved in other things. Problems, solutions, and decision makers come together because they are available at the same time and the same place. Thus, from this perspective, decisions depend on an ecology of attention. Since some factors important to the flow of problems, solutions, and decision makers are exogenous to any specific decision process, the process will appear to be quite disorderly if the attention context is ignored.

From this point of view, the loose coupling that is observed in a particular organization is a consequence of a shifting intermeshing of the demands on the attention and lives of the whole array of actors. It is possible to examine any particular decision as the seemingly fortuitous consequence of combining different moments of different lives, and some efforts has been made to describe organizations in something like that cross-sectional detail (Krieger, 1980). A more limited version of the same fundamental idea focuses on the allocation of attention. The idea is simple. Individuals attend to some things, thus do not attend to others. The attention devoted to a particular decision by a particular potential participant depends not only on the attributes of the decision but also on alternative claims on attention. Since those alternative claims are not homogeneous across participants and change over time, the attention any particular decision receives can be both quite unstable and remarkably

independent of the properties of the decision. The same decision will attract much attention, or little, depending on the other things that possible participants might be doing. The apparent erratic character of attention is made somewhat more explicable by placing it in the context of multiple, changing claims on attention.

Such ideas have been used to deal with flows of solutions and problems, as well as participants. In a garbage can decision process (Cohen, March & Olsen, 1972; Padgett, 1980), choice opportunities are seen as connecting solutions, problems, and decision makers not only in terms of rules of access that might reflect beliefs about the causal connections among problems and solutions and the legitimacy of decision maker participation, but also in terms of their simultaneous availability. In the model, it is assumed that there are exogenous, time-dependent arrivals of choices, problems, solutions, and decision makers. Problems and solutions are attached to choices, and thus to each other, not because of their inherent connctions in a means-ends sense but because of their temporal proximity. The specific collection of decision makers, problems, and solutions that comes to be associated with a particular choice opportunity is orderly -- but the logic of the ordering is temporal and contextual rather than hierarchical or consequential. At the limit, almost any solution can be associated with almost any problem -- provided they are contemporaries.

Rules and routines

Much of the decision making behavior observed in an organization reflects the routine way in which people do what they are supposed to do. Most of the time, most people follow organizational operating procedures. They follow rules even when it is not obviously in their self-interest to do so. The proposition that organizations follow rules -- that much of the behavior in an organization is specified by standard operating procedures -- is a common one in the bureaucratic and organizational literature. To describe behavior as driven by rules is to see action as a matching of behavior with a position or situation. The criterion is appropriateness rather than consequential optimality. The terminology is one of duties and roles rather than anticipatory decision making. Search involves an inquiry into the nature of a particular situation, and choice involves matching a situation with behavior that fits it. Rule following can be described as obligatory action (though the idea of obligation may suggest an overly narrow conception), as contrasted with consequential action.The behavior can be viewed as contractual, an implicit agreement to act appropriately in return for being treated appropriately, and to some extent there certainly is such a "contract". But socialization into rules and their appropriateness is ordinarily not a case of willful entering into an explicit contract. It is a set of understandings of the nature of things, of self-conceptions and of organizational images.

Rules are fundamental to understanding both the ways in which organiztions maintain stability and the ways in which they change. On the one hand, the existence and persistence of rules, combined with their relative independence of the preferences and beliefs of individual particpants, makes

it possible for organizations to function reasonably reliably and reasonably consistently in complex worlds. At the same time, change in organizations is closely linked to mundane rules. Rules are efficient and effective devices for allowing complex organizations to respond to variations in conditions. Moreover, organizations adapt to their environments by changing rules, though the processes of such change are slower than the routine adaptation to changing conditions within the rules. Current rules store information generated by previous organizational experiences and analyses, even though the information cannot easily be retrieved in a form amenable to systematic current evaluation.

Interpretation, rituals, and symbols

Most theories of organizations asume that an organizational process is to be understood primarily in terms of its outcomes, that participants enter an organization in order to affect outcomes, and the point of life is choice. The emphasis is instrumental; the central conceit is the notion of decision significance. It is possible, however, to see the central phenomena of organizations not as the making and implementing of choices, or the execution of tasks, though those may be important, but as the search for order in the face of confusion and complexity. Like students of organizations and decision making, individuals within and outside an organization try to understand what is going on, to interpret their lives and to help each other develop beliefs that make the incomprehensibilities of existence tolerable.

From such a point of view, decision making is an arena for symbolic action, for developing and enjoying an interpretation of life and one's position in it (Feldman and March, 1981). The rituals of choice infuse

organizations with an appreciation of the sensibility of organizational arrangements and behavior. They tie routine organizational events to beliefs about the nature of things. The rituals give meaning, and meaning controls life. Thus, understanding organizations involves recognizing that organizational outcomes may often be less significant than the ways in which organizational processes provide meaning in an ambiguous world. The meanings involved may be as grand as the central ideology of a society committed to reason and participation. They may be as local as the ego needs of individuals or groups within the organization.

Some treatments of symbols in organizations treat them as perversions of decision processes. They are portrayed as ways in which the gullible are misled into acquiescence. In such a portrayal, the witch doctors of symbols use their tricks to confuse the innocent, and the symbolic features of choice are viewed as simple opiates. Although there is no question that symbolic action is often taken strategically, few students of organizations accept such a picture of unrelieved malevolence. Effective decision making in organizations depends critically on the legitimacy of the processes of choice and their outcomes, and such legitimacy is consistently problematic in a confusing, ambiguous world. Confidence in the legitimacy and adequacy of decisions is part of the context of organizations that work. And that confidence cannot be assumed to be automatic.

As a consequence, organizations orchestrate the process of choice in a way that legitimizes the choices, the choosers, and the organization. In most cases, the orchestration tries to assure an audience of two essential things: First, that a choice has been made intelligently, that it reflects planning,

thinking, analysis, and the systematic use of information. Organizations plan, gather information, develop analyses, consult authorities, and prepare reports partly in order to discover the correct choice. But those performances are also ways by which an organization reassures itself and its audiences that it is a proper organization, and that it makes proper decisions. Second, that a choice is sensitive to the concerns of relevant people, that the right people have been influential in the process. Defining the "right" people is, of course, itself a complicated issue, partly affected by the orchestration of decision. For example, part of the drama of decision is used to reinforce the idea that managers (and managerial decisions) affect the performance of organizations. Such a belief is, in fact, difficult to confirm using the kinds of data routinely generated by a confusing world. But it is important to the functioning of a hierarchical system. Executive compensation schemes and the mythology of executive careers are used to reassure executives (and others) that an organization <u>is</u> controlled by its leadership, and appropriately so.

To see the symbolic structure of decision making as serving an important instrumental function in establishing the legitimacy of decisions and decision makers is, however, to see organizational ritual in a subordinate way. It becomes a possibly necessary limitation on the purity of life. Some students of organizational choice would make a stronger claim. Life is not primarily choice. It is interpretation. Outcomes <u>are</u> generally less significant than process. It is the process that gives meaning to life, and meaning is the core of life. The reason organizations and the people in them devote so much time to symbols, myths, and rituals is that they (appropriately) care more about them. From this point of view, choice is an elegant construction that

finds its justification in its elegance, and organizational decision making should be understood and described in approximately the same way we would understand and describe art or poetry.

4. SOME IMPLICATIONS

Earlier work on decision making in organizations, as well as much current work, emphasizes understanding how organizations deal with uncertainty and conflict in making choices. As a result of that work, our understanding of organizations and the ways in which we act in them have changed in significant ways. The work I have sketched emphasizes understanding ambiguity, confusion, and complexity; it asks how organizations bring order to confusing worlds, or act without conventional order. The research has some implications for how we think about some key aspects of organizational action.

Understanding management information systems

In standard treatments of information, the value of information depends on the way in which it contributes to improving decisions; information has value to the extent to which it can be expected to affect a decision; a rational decision maker will invest in information as long as the marginal expected return exceeds the marginal expected cost; and a proper management information system assembles and displays information that meets such criteria. Much of the information that managers seek and exchange in organizations is hard to rationalize in such terms. Much managerial

information appears to be idle talk from the point of view of decision theory perspectives on information. It has no apparent relevance to managerial decisions.

If, however, management is seen less as choice and more as discovering new objectives, developing myths and interpretations of life, and modifying the diffuse beliefs and cultural understandings that make organizational events comprehensible and life enjoyable, then it is not obvious that the best management information sytem is a decision support system. Intelligent managers might pay more for, and attend more to, a system designed to develop interpretations of events and understandings of history rather than to help make choices.

Intelligent choice often presumes understanding, of course, and it is possible to see the interpretation of history as instrumental to the action (choices) by which we seek to control our fate. It can, however, be seen as more fundamental than that. Perhaps interpretation is more a primary feature of human behavior than a servant of choice. From such a perspective, information is sought and considered because it contributes to understanding what is going on in life; and understanding what is going on is important independent of any purpose to which the knowledge might be put. Perhaps we can better understand the uses of information in organizations if we see information, and decision making, as part of an effort to comprehend and appreciate human existence, as driven by elementary curiosity as much as a hope for instrumental advantage. We can see organizations as having been designed (or evolved) around some problems of developing, enjoying, and sharing interpretations of reality, commnication in organizations as tied to

the discovery, clarification, and elaboration of meaning, and the process of decision making in organizations as a performance within which individuals and groups construct an interpretation of experience that can be shared meaningfully and enjoyably (March and Sevon, 1982).

In order to use such ideas in the design of management information, we require some notion of the value of alternative information sources that is less tied to a prior specification of a decision (or class of decisions) than to a wide spectrum of possible decisions impossible to anticipate in the absence of the information; less likely to show the consequences of known alternatives for existing goals than to suggest new alternatives and new objectives; less likely to test old ideas than to provoke new ones; less pointed toward anticipating uncertain futures than toward interpreting ambiguous pasts. It would be a collection of pieces of information of doubtful relevance.

In fact, a view of information and life not far from the one we have sketched is a quite traditional one, associated classically with literature, art and education; and if there are appropriate models for a management information system of this sort, perhaps they lie in discussions of the nature and design of education rather than in modern theories of decision. Perhaps management information designers could profit from some attention to the ancient and modern discussions of the linkage between education and life, the arguments over the relevance of "relevance" in thinking about a curriculum, and the efforts of art and literary criticism to explicate the expression of meaning.

To be sure, there are differences between an organization and a society and between managers and educators or artists. Many of those differences involve the relative specificity of activities and objectives in organizations, compared with the relative diffuseness of broader social relations. The differences make the leap from the analysis of education to the analysis of organizational information a large and possibly treacherous one. But not entirely foolish. As we discover the elements of loose coupling and ambiguity in organizations, the role of symbols in decision making and information processing, the place of myths, stories, and rituals in management, and the significance of beliefs in the transformation of organizations, some of the distances between the properties of organizations and the properties of art and education seem to grow smaller.

To describe organizational management in such terms is, of course, to glorify it. It suggests that office memoranda might be viewed as forms of poetry and staff meetings as forms of theater, and we may perhaps wonder whether it would be better to admit distinctions between the activities of accountants and an abstract painting -- if only to assure that each may achieve its unique qualities. The dangers are real; but to a glorified view of idle talk and memoranda, we can add a romantic view of the possibilities for artistry in organizational engineering. Perhaps, with a little imagination here and there, educational philosophy and literary criticism could be used to point management information systems in the direction of a useful quality of irrelevance.

Understanding organizational leadership

An understanding of organizational leadersip is ordinarily built around

two fundamental, interrelated, and subjectively very compelling beliefs. The first is a belief in the efficacy of leadership. The belief depends on the idea that life is choice, that individuals and institutions make decisions on the basis of an awareness of the consequences of action for goals. The efficacy of such goal-oriented choice is, then, dependent on the power of the individual or institution involved. In short, it is assumed that things happen in organizations and society because some poeple want them to happen and have the power to make them happen. Organizational leaders are seen as individuals who make decisions (e.g., "the buck stops here"). And because of their position and the resources they control, their decisions are seen as efficacious. As a result, the great actions of leaders are, appropriately, based on great hopes for consequences. Leaders are seen as important.

The second basic belief underlying much of our talk about organizational leadersip is a belief in the meaningfulness of differential success among leaders. We generally believe that managerial careers are the result of managerial performance, and that managerial performance is a reliable reflection of individual capabilities for meeting the demands of the job. In some cases, we may believe that the demands of the job involve some socially irrelevant criteria (e.g., familial ties); but we generally assert that the differences in performance that are reflected in differences in careers are reliable, that they stem from some underlying differences in managers. In short, we believe not only that leadership makes a difference but also that different leaders produce different outcomes, that leadership success is a consequence of individual attributes.

It is not easy to examine beliefs that so deeply condition our

observations and our inferences. We can to ask, however, whether it is possible that such beliefs might be mistaken or misleading. Consider two simple arguments: First, there are some reasons, drawn from our research on organizations, to question our beliefs in the efficacy of leadership action and the reliability of leader success. As has been suggested above, organizing our thinking around decision making may easily mislead us. Frequently it is unclear who made a decision, what a decision is, and when a decision is made. Calling organizational action a result of a decision may obscure the nature of a process that is more imitative or rule-following. And the realation between organizational decisions and organizational outcomes is often obscure. In such a situation, the consequences (if any) of leader action are likely to be substantially confounded with other factors, and the problems of reliably assessing the quality of leaders are likely to be considerable.

These problems are particularly acute as we approach the top of an organization, where goals tend to be somewhat less simple and causal relations somewhat less clear. Moreover, they are accentuated by the fact that as we move toward the top of a hierarchy of managers promoted on the basis of performance, we find a pool of managers that is increasingly homogeneous with respect to attributes that produce reliable success. It is entirely possible that these two processes --the filtering of managers through performance on the way to the top and the increasing ambiguity of managerial evaluation (or at least its connection to managerial action) -- combine to make the error variance in the measurement of performance greater than the variation in the pool of potential leaders (March and March, 1977, 1978). Under such a circumstance, you could not (reliably) distinguish among vice-presidents in selecting a president. Different vice-presidents would look different, of

course; they would have different records of apparent success; but the differences would not be reliable.

Second, there are some familiar processes of human inference that would lead us to such beliefs and to considerable subjective confidence in them, even if they were not true. When we look at recent efforts to understand the way human beings form inferences about their experience, four features of inference-processing seem particularly relevant to leaders.

(1) Conservation of belief. We seem to be more accepting of evidence that confirms prior beliefs than we are of disconfirming evidence. We tend to distort evience to make it conform to our beliefs. The confidence of experts, as well as others, appears to be substantially independent of the correctness of their beliefs.

(2) Belief in determinacy. We seem not to believe in the possibility of chance events. Anything that suggests a situation involves skill will make humans treat it as a situation involving skill, even though outcomes are determined by a chance process.

(3) Anthropocentrism. We seem systematically to overestimate the role of individual intentions and dispositions in determining events we observe, and systematically to underestimate situational and unintentional factors. We believe that people make things happen.

(4) Success bias. Particularly in important tasks, personal success tends to accentuate the inclination to make explanations of

events that attribute outcomes to personal intentions and actions. Successful people tend to think they produce the effects (success) they experience.

Leaders in organizations are successful. That is how they become leaders. They operate within a social norm that attributes considerable importance to leaders. As a result, we would expect them to exaggerate the importance of individual actions, and specifically their own actions, on events. They would come to believe in their control over organizational outcomes, even if they had very little actual control; and their subjective beliefs would be reinforced by their (subjectively plausible) interpretations of their experience.

What this suggests is not that leadership is unimportant. Rather, the argument is that there are reasons for suspecting that reliable discrimination among leaders at the top may be difficult and for suspecting that even if we couldn't make such discriminations we would come to believe that we could. Our confidence in the significance of individual variation among leaders is, in short, no evidence for the veracity of the belief. It seems likely that the difference between a successful leader and an unsuccessful leader is less than we believe, and it seems possible that we may want to question the conventional idea that great leader action should be built on great expectations for the consequences of action.

Understanding organizaional change

Insofar as action can be viewed as rule-following, decision making is not willful in the normal sense. It does not stem from the pursuit of interests

and the calculation of future consequences of current choices. Rather it comes from matching a changing set of contingent rules to a changing set of situations. The intelligence of the process arises from the way rules store information gained through learning, selection, and contagion, and from the reliability with which rules are followed. Understanding the broader intelligence of the adaptation of rules depends on a fairly subtle appreciation of how rules develop, thus how organizations change.

Most discussions of change in organization grow out of a concern for making them do what we want them to do. As a result, many theories of change in organizations emphasize planned, intentional, anticipatory change. They imagine situations in which individuals or groups choose future directions and then try to lead an organization. These observations may lead us to confuse organizational resistance to change with organizational resistance to arbitrary change. In fact, organizations adapt routinely and easily to their experience, though they rarely do exactly what they are told to do by proper authorities or managers. They follow rules that are contingent on the environment, and track that environment in such a way as to produce large changes without great difficulty. Since adaptation occurs at several levels simultaneously and in a confusing and changing world, sensible adaptive processes sometimes produce surprises (March, 1981). As a result, understanding organizational change may be not as much a matter of looking for unique change processes as one of looking for the ways routine procedures and ordinary behavior both facilitate easy adaptation and result in occasional surprises.

It is possible to find numerous elaborations of this theme. I will limit

myself to a few. First, it is possible to see technological change in an organization as a result of a simple adaptive process in which organizations learn and modify search investment decisions. Suppose organizations learn what return to expect from their search decisions. That is, they learn to have a reasonable level of aspiration. At the same time, suppose they gain competence in search through experience at it. The more they search in a particular way, the higher the expected return from that kind of search. Finally, suppose they learn how to allocate effort to different search alternatives as a consequence of experience with the outcomes of past allocations. Explorations of such learning processes indicate that they are sensitive to the relative speed of the three kinds of learning and to the fortuitous outcomes of probabilistic events (Levinthal and March, 1982). Thus, very similar processes operating in (probabilistically) identical environments produce considerable variation in organizational change, and rapid learning is not always the best.

It is also possible to view organizational change as occurring through a process of selection. By building on obervations of the importance of standard operating procedures and decision rules, Winter (1971) and Nelson and Winter (1973) portray organizations as evolving collections of invariant rules. The mix of rules oberved in a family of existing organizations reflects the differential growth and survival of organizations that follow different rules in a particular environment. A similar perspective, but focusing on selection of organizational forms rather than rules is found in Hannan and Freeman (1977).

Conceptions of organizations as evolving mixes of inexplicably sensible

rules and structures have been appealing to students of organizations who would like to assume that organizatons act in an optimal way even though the processes they use seem far from rational calculation. Information about past experience is stored (irretrievably) in the rules and forms that survive. The argument is an interesting one, but it assumes that selection processes are rapid enough or general enough to be insensitive to rates of change in the environment. Under such conditions, the equilibrium properties of the processes are of considerable interest. Behavioral students of organizations have generally been less interested in emphasizing the equilibria of adaptive processes than they have been in describing the time-paths of movement under conditions of environmental instability and uncertainty, and in identifying some of the conditions under which the information content of rules or organizational forms will be less (or greater) than the information content of explicitly rational procedures. The latter issue is, of course, a classic one in the ideology of social change.

A theme that runs through several treatments of organizational change as an adaptive process is the problem of foolishness in organizations. The discussion of foolishness has emphasized two main concerns. On the one hand, organizations that focus too narrowly on achieving present objectives reduce their chances for inadvertant discovery of alternative goals through experience. In a world in which preferences are discovered through action, there is some need for experimenting with actions that cannot presently be justified. On the other hand, organizations are systems that are adapting at several levels, and actions that are optimal form the perspective of one level are unlikely to be optimal from the perspective of another. It is likely, for example, that optimizing on the survival prospects of an organization will be

inconsistent with optimizing at the individual level. Of greater interest in recent work, however, has been the potential for conflict between the survival needs of individual organizations and the needs of larger systems of organizations. For example, it is often wiser for any individual organization to wait for another organization to experiment with innovations and then adopt those that seem to work. But since that is true of every organization, there is a system problem of producing the "foolishness" that sometimes leads to new discoveries. Since, on average, such foolishness has a negative expected value, we require a process of decision that (in effect) reduces the likelihood of survival for the individual organization making the decision, but makes the conditions for other organizations more benign.

Some organizational processes have evolved that accomplish this. They are not conscious strategies by which organizations enter into contracts to share the costs and benefits of risky innovative adventures. Rather they are rules of behavior within organizations that stimulate, or tolerate, foolishness. These include responses to organizational slack. Under favorable conditions, organizations seem systematically to reduce the tightness of controls over subgroups and individuals. As a consequence, they encourage activities that are justified on the sub-organizational level but are probably suboptimal at the organizational level. Similarly, organizations encourage (or are led to accept) rules of professional conduct that are, from the organization's point of view, foolish. For example, managers are encouraged to "make their marks", to make changes. It is doubtful that the expected value of a random managerial change is positive. So most efforts by managers to leave some sign of their existence are probably mistakes. But the rule encourages the kind of experimentation that (at some cost to the

organization) leads to occasional discovery of practices that are generally useful. Since individual organizations are probably somewhat more enamored of individual orgarizational survival than would be optimal for the system of organizations, these "unconscous" rules protect sensible (system-wide) behavior from the predations of rational organizational analysis.

5. PROSPECTS AND NEEDS

I think the study of organizations, and particularly the study of decision making in organizations, seems rich in possibilities for future research. We know a little. We would like to know a little more. The theoretical ideas sketched above are invitations to more theoretical development. We need better models of organizational learning and evoluton, and a better understanding of the kinds of surprises that may arise from a mostly sensible learning or evolutionary process. We need better models of garbage can decision processes and of supply-side (i.e., solution driven) problem-solving in organizations. We need better understanding of how individuals and organizations process preferencs, how we can imagine decison making in situations in which preferences are changing, inconsistent, and endogenous to choice. We need better ideas for the analysis of symbolic action in organizations, something that goes beyond the simple observation that it is important.

Theoretical ideas in organizational decision making are, however, heavily dependent on the effectiveness with which we stimulate, and honor, the difficult work of observing the ways in which real organizations function. Many recent theoretical developments have been essentially attempts to comprehend the richly contextual, historical case studies of organizational decision making. In a more than usual way, theories of organizational decision making are dependent on acutely sensitive observers of natural decision processes, observers who can report events without a premature commitment to an interpretation of events, who have the patience to watch what is happening, and who have the subtle minds of serious ethnographers. Those people are rare people.

A significant number of recent developments in the theoretical analysis of organizational decision making have come from the study of institutions of higher education. This is, no doubt, partly an accident of the fact that many of the contributors to the field inhabit colleges and universities, and to the problematics of university governance after the student unrest of the 1960's. But such happy accidents are often the basis for happy traditions; and as we look ahead to the next decade of research, it may not be entirely unreasonable to hope that students of higher education will contribute as much to our understanding of organizations in the next ten years as they have in the past ten years.

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